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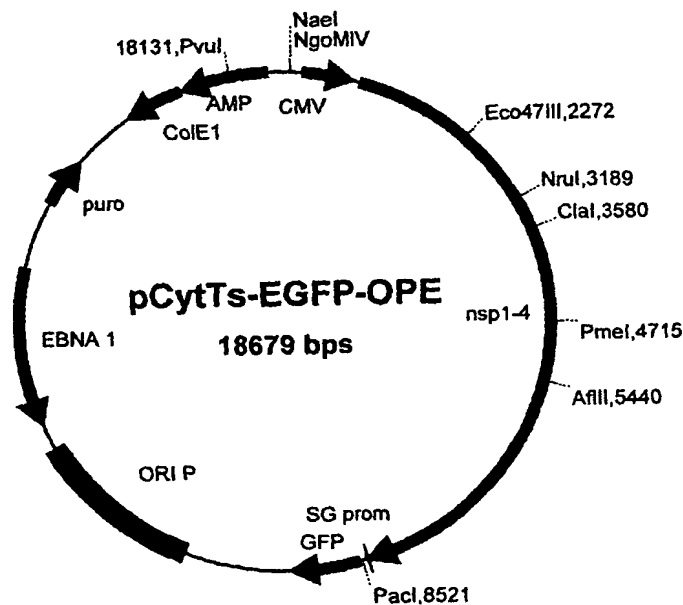
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(54) Title: INDUCIBLE ALPHAVIRAL/ORIP BASED GENE EXPRESSION SYSTEM



(57) Abstract: The present invention relates to compositions and methods that allow the production of polypeptides and untranslated RNA molecules in host cells. More specifically, the invention provides nucleic acid molecules, expression systems, recombinant host cells, methods and kits, which enable the production and/or isolation and/or purification of polypeptides and untranslated RNA molecules. The compositions and methods of the invention can be applied in a regulatable expression system that is transiently transfected into mammalian host cells.



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## A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 50432 A (RENNER WOLFGANG A ;NIEBA LARS (CH); CYTOS BIOTECHNOLOGY AG (CH); B) 7 October 1999 (1999-10-07) cited in the application the whole document	
A	WENDELBURG ET AL: "AN ENHANCED EBNA1 VARIANT WITH REDUCED IR3 DOMAIN FOR LONG-TERM EPISOMAL MAINTENANCE AND TRANSGENE EXPRESSION OF ORIP-BASED PLASMIDS IN HUMAN CELLS" GENE THERAPY, MACMILLAN PRESS LTD., BASINGSTOKE, GB, vol. 5, May 1998 (1998-05), pages 1389-1399, XP002931315 ISSN: 0969-7128 abstract	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 13511 A (US HEALTH ;MORGAN RICHARD (US); WAHLFORS JARMO (US); XANTHOPOULOS) 2 April 1998 (1998-04-02) the whole document ----	
P,X	BOORSMA MARCO ET AL: "Alphavirus cDNA-based expression vectors: Effects of RNA transcription and nuclear export." BIOTECHNOLOGY AND BIOENGINEERING, vol. 81, no. 5, 5 March 2003 (2003-03-05), pages 553-562, XP002267157 ISSN: 0006-3592 the whole document -----	1-85

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9950432	A	07-10-1999	AU 757549 B2	27-02-2003
			AU 2848199 A	18-10-1999
			CA 2325564 A1	07-10-1999
			DE 1066395 T1	04-04-2002
			EP 1066395 A1	10-01-2001
			WO 9950432 A1	07-10-1999
			JP 2002509729 T	02-04-2002
			NZ 507195 A	25-07-2003
			US 2003053988 A1	20-03-2003
WO 9813511	A	02-04-1998	AU 4737597 A	17-04-1998
			WO 9813511 A1	02-04-1998
			US 2002173038 A1	21-11-2002